



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/041,742	01/10/2002	Hiroshi Furukawa	Q68001	4052

7590                  07/07/2004

SUGHRUE MION, PLLC  
2100 Pennsylvania Avenue, NW  
Washington, DC 20037-3213

EXAMINER

WEST, LEWIS G

ART UNIT

PAPER NUMBER

2682

DATE MAILED: 07/07/2004

5

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/041,742	FURUKAWA, HIROSHI
	<b>Examiner</b>	<b>Art Unit</b>
	Lewis G. West	2682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 10 January 2002.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-12 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-12 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 10 January 2002 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____.                                   |

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-12 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant is attempting to claim “radio communication” using “elastic waves”, radio waves are electromagnetic, and can be destructive. Elastic waves are mechanical and by definition non-destructive. There is therefore a conflict within the claim. For purposes of examination, the term “radio” will be ignored, and treated as wireless communication.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 5-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Grunwell (US 5,410,587).

Regarding claim 1, a communication system for performing short-range communication between a plurality of communication nodes, wherein each of said communication nodes comprises: a transmission/reception unit which transmits/receives

Art Unit: 2682

an elastic wave; a first circuit which drives said transmission/reception unit on the basis of transmission data; and a second circuit which demodulates reception data from an output from said transmission/reception unit. (Col. 4 lines 9-41)

Regarding claim 5, a system according to claim 1, wherein a transmission medium for the elastic wave is a gas. (Col. 3 lines 51-63)

Regarding claim 6, a system according to claim 5, wherein the gas is air, and the elastic wave is a sonic wave. (Col. 4 lines 9-41)

Regarding claim 7, a system according to claim 6, wherein said transmission/reception unit comprises an ultrasonic unit having a plurality of ultrasonic elements in the form of an array which emit the elastic waves in all directions. (Col. 4 lines 9-41)

Claims 1, 2, 8 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Yang et al. (US 6,331,974 B1)

Regarding claim 1, Yang discloses a communication system for performing short-range communication between a plurality of communication nodes, wherein each of said communication nodes comprises: a transmission/reception unit which transmits/receives an elastic wave; a first circuit which drives said transmission/reception unit on the basis of transmission data; and a second circuit which demodulates reception data from an output from said transmission/reception unit. (Col. 17 lines 11-63)

Regarding claim 2, Yang discloses a system according to claim 1, wherein a transmission medium for the elastic wave is a solid member. (Col. 17 lines 27-52)

Regarding claim 8, Yang discloses a system according to claim 1, wherein when said communication nodes are geographically distant from each other, an elastic wave having the same frequency is repeatedly used. (Col. 12 lines 14-21)

Regarding claim 9, Yang discloses a system according to claim 1, wherein said communication node comprises: a plurality of base stations arranged in a plurality of cells obtained by dividing a service area; and a mobile terminal which is located in a cell and communicates with a corresponding one of said base stations (Col. 2 line 55-col. 3 line 6; Col. 4 lines 43-52), and communication between said base station and said mobile terminal in two cells which are distant from each other is performed by repeatedly using the elastic wave of the same frequency. (Col. 12 lines 14-21)

Claims 11-12 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Herrmann (6,711,403).

Regarding claim 11, Herrmann discloses a method of performing short-range communication between a base station and a mobile terminal, comprising the steps of: multiplexing transmission signals at the base station; converting the multiplexed signal into an elastic wave and transmitting the elastic wave from the base station to the terminal; multiplexing transmission signals at the terminal connected to the base station, and converting the multiplexed signal into an elastic wave and transmitting the elastic wave from the terminal to the base station. (Col. 4 line 10-60)

Regarding claim 12, Herrmann discloses a method according to claim 11, wherein a transmission medium for the elastic wave is air, and the elastic wave is an ultrasonic wave. (Col. 1 line 55-col. 2 line 4)

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang.

Regarding claim 3, Yang discloses a system according to claim 2, wherein the solid member, but does not explicitly disclose a desk. Yang does disclose that the solid may take many forms, and transmitting through a desk, would not change the structure or necessary steps of the invention. Therefore it would have been an obvious choice in design to a skilled artisan at the time of the invention to use a desk as the solid medium, desks being a commonly occurring solid object in business environments where short-range communications are often necessary.

Regarding claim 4, Yang discloses a system according to claim 3, wherein said communication node is placed on the desk such that said transmission/reception unit is brought into contact with the desk. It would be necessarily inherent to transmission through a solid of an elastic wave that the transceiver be in contact with the solid.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yang in view of Acampora (US 6,314,163).

Regarding claim 10, Yang discloses a system according to claim 1, but does not expressly disclose a wired connection. Acampora discloses a system wherein a communication node is connected to a wire network, and communication wirelessly and communication through said wire network are selectively performed between said communication nodes. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have a system wherein said communication node is connected to a wire network, and communication using the elastic wave and communication through said wire network are selectively performed between said communication nodes in order to prevent excessive traffic via one means or the other.

(Column 28 lines 24-39)

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lewis G. West whose telephone number is 703-308-9298. The examiner can normally be reached on Monday-Thursday 6:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 703-308-6739. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2682

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Lewis West  
(703) 308-9298  
June 23, 2004



VIVIAN CHIN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600